

# Paediatric update



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Welcome to our paediatric nutrition column 'Paediatric update'. In each column, Kiran Atwal, Freelance Paediatric Dietitian, will update you on new guidance, tools and current affairs. Here, Kiran takes a look at the 'The Value of New Clinical Practice Tools in Paediatric Dietetics'.

## Background

Validated and widely accepted nutritional tools in paediatrics are scarce, but could new developments over the past year offer promising insights? Current practice may rely on non-robust systems, unvalidated tools or a lack of clinical expertise that recognise the signs of malnutrition, or the requirement of dietetic intervention. As a result, vulnerable patients could be missed.

Malnutrition screening tools detect risk in hospitalised patients who may require dietetic review. In paediatrics, some exist, such as STRONGkids, which has undergone a large validation study in the US, and the results are eagerly awaited.<sup>1</sup> However, most screening tools do not include newborns, which is where the Infant Nutrition Early Warning Score (iNEWS) aims to fill the gap.<sup>2</sup>

Born out of the response to the pandemic, the Paediatric Remote Malnutrition Application (Pedi R-MAPP) was developed for use in the community setting to provide a remote nutrition assessment for under- or over-nutrition and to identify the necessity of in-person review.<sup>3</sup> Categorised as a nutrition awareness tool, which is poorly defined in the literature, it considers food insecurity, in addition to the child's intake, disease status, growth or activity changes, and clinical concerns to indicate urgent review.

## What do they have to offer?

**iNEWS:** In a new 'real world' study across four European hospitals, 352 infants were screened to evaluate iNEWS. iNEWS completion rates were only measured in 2 hospitals and ranged between 71-75%. Across all hospitals, 72 infants (20%) were identified as high-risk of malnutrition from iNEWS and needed dietetic review. Subsequently, 14 (20%) did not need review. False positives were related to 10 premature infants already receiving dietetic care, and 2 infants undergoing pre-surgical fasting. The true positive predictive value of iNEWS was 80%. Feedback on iNEWS from one hospital found that 64% agreed it aided their dietetic referrals, 82% agreed it was easy to use and 91% agreed it could be integrated into admission procedures.<sup>2</sup>

**Pedi-RMAPP:** A validation study by 15 dietitians in a UK-based hospital evaluated Pedi R-MAPP in 745 children with acute and chronic disease.<sup>2</sup> 86% agreement was found between the dietitian and the Pedi R-MAPP conclusion. The main reasons for disagreement included receiving nutrition support, a chronic condition requiring ongoing review, condition-specific growth changes or different follow-up advised. Subsequent changes to the tool increased agreement to 98%. Feedback from dietitians suggested it was user-friendly.<sup>3</sup>

## How could they add to practice?

iNEWS could feasibly aid the process of malnutrition screening in hospitals to capture infants from birth. Falsely identifying premature infants for dietetic review was not a drawback of the study and may assure their nutritional care. It is important to note iNEWS was not piloted in critical care (medical and surgical specialities only), and the numbers were small.<sup>1</sup> Although iNEWS is a product of the specialist interest group in clinical malnutrition of the European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPGHAN), it is not currently endorsed. This may suggest a need for higher powered studies that look at both the positive and negative predictive values of iNEWS, which may validate the tool for use across clinical practice.

Pedi R-MAPP was tested in a hospital, although it is promoted for remote community settings. It was deemed user-friendly by dietitians, but it is unclear if or how it benefited their practice. The impact of the food insecurity analysis was not explored, which seems a missed opportunity as it is a growing concern, and few practice tools include this. The study did not include other healthcare professionals (HCPs), so acceptability and feasibility may be different. Amendments to the tool were made after the validation study, which requires further real-life validation.<sup>2</sup> If this is based in the community setting with a range of HCPs it may enable a better understanding of whether Pedi R-MAPP makes a meaningful, clinical contribution to practice.

References: 1. Jimenez EY, et al. (2022). Academy of Nutrition and Dietetics Nutrition Research Network: Rationale and Protocol for a Study to Validate the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition Consensus-Derived Diagnostic Indicators For Adult And Pediatric Malnutrition and to Determine Optimal Registered Dietitian Nutritionist Staffing in Acute Care Hospital Settings. *J Acad Nutr Diet.*; 122(3): 630-639. 2. Bamkole O, et al. (2024). Clinical performance of the infant nutrition early warning score in routine practice across four international clinical settings in Europe: A study by the ESPGHAN special interest group in clinical malnutrition. *J Pediatr Gastroenterol Nutr.*; doi: 10.1002/jpn3.1212. 3. Marino LV, et al. (2023). Pedi R-MAPP | the development, testing, validation, and refinement of a digital nutrition awareness tool. *Clin Nutr.*; 42(9): 1701-1710.